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ABSTRACT

This paper argues that the study of the psychology of childlore must incorporate theories from a larger cultural system as well as the nonsense functions of the childlore phenomena and the unique quality of the organizations learned through childlore. Attention to all three aspects (the consolidative, the inervsive, and the prototypic) are in the domain of the theory of ludic modeling. Examined in this paper are various anthropological studies, and Piagetian structural approaches, especially riddles and games. A structural organization of game levels is delineated and includes pastimes, central person games, competive games, and sports. It is concluded that a theory of folklore through ludic models is an effective method of study. (TS)

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The Psychology of Childlore:* A Theory of Ludic Models

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The psychology of childlore is an intersect of psychology and juvenile folklore. From folklore it borrows games, riddles, rhymes, jokes, pranks, superstitions, tales, magical practices, guiles, epithets, nicknames, torments, oral legislation, seasonal customs, codes, etc. From psychology it borrows daydreaming, play, humour, fantasies, imaginary companions, collections, model worlds, comics and media interest, stories and art. One discipline has been more interested in the codified spontaneity; the other in the idiosyncratic spontaneity. Clearly the domains overlap and should be considered jointly.

The assumption behind my studies of childlore has been that the working behavior systems to be found in children's lore provide us with an important and neglected source of information about child development, paralleling information to be derived from the customary observational, clinical, and experimental sources. And perhaps superior to those other sources because of the historically built in adaptive devices which ensure that culturally relevant issues will be dealt with. Even if the latter is true, however, one must quickly admit that our capacity to

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*The title of the paper is also the title of an academic course I have been teaching in psychology for the past 15 years. I have dealt with this subject matter in two prior papers: "The Psychology of Childlore," Western Folklore, 1970, 28, 1-8; and "The Expressive Profile," Jl. of American Folklore, 1971, 84, 80-92.

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conceptually interpret these productive systems has not usually been adequate to the occasion. In part our efforts have been vitiated by a tradition of regarding such working behavior systems as epiphenomenal and therefore trivial.

Even our attempts to escape such puritan influence, however, have in part been misleading. In order to show that childlore is functional in culture, we have overemphasized the extent to which these phenomena model (in the naive realistic sense) important features of the larger cultural system. Thus, our theories of play tend to emphasize the contribution that it makes to development as preparation or cognition or imagination. Our theories of games and sports are largely accounts of the way in which individuals become socialized through participation in them. In all this rush to rehabilitate childloric phenomena into serious scholarly thinking, the more wayward and nonsensical functions of the phenomena have tended to be overlooked. As a result while we are beginning to understand the representative aspects of childlore we know very little about its unique forms of functioning.

It seems to me that we are, at present, confronted with three not necessarily exclusive alternatives. The first proposed by Piaget is that in play the child carries on the operations previously formulated in intelligent activity and in so doing consolidates them in his repertoire. The second, enunciated by Chukovsky, the Russian expert in children's literature, extends that argument as follows:

> "To fully know one's reality, to be master of the world one has built for oneself, one must carry its principles through to extremes, to be able to recognize what is complete nonsense, as well as complete sense."

This argument, which finds support in the writings of Gregory Bateson, Ruth Weir, and Jerome Bruner suggests that what play does with its variation seeking or its combinatorial permutations is to discover and develop flexibilities concerning the boundaries of competences which are in the process of becoming established. The third point of view is that in play's permutative activity we also find a new form of organization. The child finds new meanings for prior competences, which are potentially anticipatory of subsequent behavior, therefore, can be regarded as prototypic. This point of view advanced briefly by Vygotsky would find support if it could be shown that unique events that occur in play predict to subsequent functioning on a higher level. There is an increasing body of support for such a point of view, which I have summarized elsewhere as a theory of play as adaptive potentiation (Sutton-Smith, 1975).

Having said all this, however, I must admit that most of my own work has been on the representative aspect of childlore models. Still in presenting that work I hope to be able to focus attention at least, not only to what might be being consolidated from the larger cultural system (Piaget), but also to the nonsense surrounding the sense (Chukovsky) and to the unique quality of the novel organizations learned through childlore (1967). Attention to all three aspects (the consolidative, the inversive, and the prototypic)can be regarded as the proper domain for a theory of ludic modelling.

A further limitation is that my own research to date in this area extends only to games and riddles, and involves only two major conceptual systems, one derived from functionalism in anthropology and the other from Piagetian structuralism.

Anthropological Studies

With anthropologist John Roberts, the opportunity was presented of testing out a variety of speculations derived directly from a reading of game symbolism. I had always been impressed, for example, with the way in which games of chasing seemed to illustrate Fromm's thesis that the child between 4 and 7 years develops competence in moving from primary to secondary ties (1959). The apparatus of these games with their safe bases, their dangerous territories and monsters nicely reflects the type of conflicts over independence written about by Fromm. Roberts and I hypothesized, therefore, that these games would be more likely to exist in cultures where there was such a concern over and conflict about independence. In a study of 61 tribal groups the hypothesis was supported. Roberts, insisting that there would be a sociogenic as well as a psychogenic correlate to the game, inductively discovered that the games were significantly more often present when the girl was required to marry and live among strangers. It was this type of double empirical linkage which we felt provided support for what we came to term a conflict-enculturation theory of games. The theory says that child training procedures induce conflict, which when symbolized in games in a manageable way, permits the child in that buffered domain to consolidate degrees of competence which are of subsequent adaptive value. The hilarity, mockery, and sometimes borderline anxiety with which these games are played are indications enough of their boundary delimiting function. The possibility that those who deal with varieties of play "strangers" are in a better shape to deal with the meaning of "real" strangers, as well as to marry them, is certainly implied by the cultural correlates.

Another "test" derived in a similar intuitive way was about riddles. I had always been intrigued with the arbitrary way in which the eight-year-old children I had taught (in 1948) would inflict these upon each other. They seemed to me in their riddles to parody the arbitrary nature of questions and answers as these are put to children by teachers and as they are perceived by the children. Subsequently, Roberts and Forman found indeed that riddles exist cross culturally in a social context where oral interrogation is a major method of informal education (1971). The riddle is both a model and a mockery of the institution. This is an important point, because it demonstrates that the riddle models the institution of oral interrogation, but in addition goes beyond that institution to the point of nonsense. If one follows Chukovsky (1966), only those who take their learning to the point of nonsense understand its true boundaries and limitations and can, therefore, handle the learning flexibly. In this sense, of course, the childloric model adds playfulness to representation for the more flexible management of the system. The childlore model is not therefore just a realistic cultural model; it is what Colby terms a productive model, with special functions which have to do with learning rather than with modelling (1975). The concept of ludic modelling is meant to cover these additional elements.

In the above two cases with respect to chasing games and riddles, intuitive hunches were subsequently supported by cross cultural data. The larger body of my work with John M. Roberts, however, derived from his earlier study with Arth and Bush (1959) in which games were classified in terms of whether their outcomes were determined by physical skill, chance, or strategy, and the cross cultural files were searched inductively for

empirical correlates. Here the classification in these terms (chance, strategy, etc.) gained dignity from decades of social science usage of such games in probability and game theory. In an extensive series of studies which Roberts is still continuing we discovered that these games types are systematically implicated with other cultural variables (Roberts & Sutton-Smith, 1962, 1965, 1966; Roberts & Barry, 1975). The simplest, usually tropical cultures appear to use physical skill games as a training ground for hunting, fishing, and gathering. The use of the games is quite explicit in training terms, although ludically elaborated as we have mentioned. Turnbull's description of pygmy children's riotous games on trees and the adult use of tree climbing to escape wild animals is a good example (1961, Chap. 7). Cultures with games of chance appear most often to arise in circumstances of economic uncertainty, where the population still depends on nature rather than itself to provide the food resources. The Gods are benevolent and decision-making is divinatory. American Indian hunting tribes are a good example. Caillois has devoted considerable effort to showing that those most addicted to games of chance in modern society tend to be drawn most largely from circumstances of economic uncertainty (1961), and Roberts and I have offered empirical support from Roper surveys that this is indeed true (Sutton-Smith & Roberts, 1963). Cultures with games of strategy by contrast were high on complexity as measured by social class, technology, population density, agriculture, urbanization, level of political integration, etc. If games of chance are a model of a divinatory, risk-accepting attitude to nature, games of strategy are a model of a risk-taking attitude (Ball, 1974). The former implies external locus of control and the latter internal locus of control in social learning terms.

These cross cultural regularities have been strongly confirmed by subsequent large-scale cross cultural studies (Murdoch, 1967). In order to substantiate them intra-culturally, Roberts and I engaged upon a series of what we termed "sub-system replications." Here we sought to show that the relationships established cross-culturally would also be found intra-culturally (Sutton-Smith & Roberts, 1963, 1964, 1967). We obtained support for this position, but in addition made interesting novel discoveries showing, for example, that even competence at the most elementary game of strategy, Tic Tac Toe, differentiated strongly between different types of children. Those who played a winning strategy were quite different from those who played a draw strategy, and the correlations were quite different for each sex.

More recently Robert and Barry have shown that with increasing game complexity, the self-reliance of children decreases markedly but their distrust and dishonesty increases (1975). Apparently complex cultures require people who are somewhat more devious than is the case in simple cultures. The finding offers nice support for our earlier thesis that, amongst other things, games are models of power tactics, that is, of ways of getting others to do what you want them to do even when you don't admit that that is what you want them to do. It looks to us as if the games indeed provide the major prototypes for "political" behavior, something we prefer not to deal with in this way in the ordinary curriculum (Sutton-Smith, 1972).

These studies may be taken to bolster the view that with development the child is confronted with an array of information systems and according to the selection he makes or has imposed upon him, he develops competences of a culturally adaptive character. He is perhaps drawn into

these models because they permit a playful management as well as a sober replication of the competences involved. In these terms childlore (toys, play, games, sports) is an implicit educational system with a systematic role in the larger culture, and because of its ludic character, it has its own built in inducements to participation. I have dealt at length elsewhere with these inducements or motivations (in press). The only reservation I have about this way of theorizing is that it makes irreverence functional some of the time.

More recently I have been investigating the plots of children's freely told stories, and have found it possible to apply structural theses derived from anthropologist Levi Strauss and the Russian folk tale theorist Vladimir Propp. Which is to say, that these very spontaneous and apparently very idiosyncratic, often nonsensical phenomena, lend themselves to the same types of analysis that has already been used with some profit in the analysis of mythology, legend, and folktales (1975). The point for me is that these apparently individual phenomena follow the same normative lines that are followed by games. They may therefore be supposed to lend themselves also to a general theory of the role of ludic modelling in the acquisition of patterns of cultural adaptation.

Piagetian Structural Approaches

In recent years along with many others I have found the cognitive model provided by Piaget of considerable value. To date I have used it in an experimental study of game playing, in a study of riddles, and more recently to form an overview of the developmental character of games structures.

(a) How Many Eggs?

In the experimental study, a game known as "How many eggs in my bush" in which children guess the number of items the other player has in his hand, was used to induce number conservation in the experimental group (1972). The control group acquired the same conservation about 6 months later than the group that played this game several times a week. All of which only shows that traditional lore often contains principles and exercises in cognition which have effects on subsequent competences. How many eggs is a prototype for number conservation. The lore has the advantage also that it usually comes wrapped in a motivationally self-sustaining package.

(b) Riddles

My Piagetian study of riddles (1973) was an attempt to see if children's chronological development through riddles could be satisfactorily organized and understood in terms of the logical development of classes (after Piaget). I found that about 70% of the collection fitted rather neatly the notion that they were exercises in classification, reclassification, and multiple classification in that developmental order and as these were defined by Piaget. If one concentrates on the sober aspects of riddles, then they mostly conform. For example, a riddle in these terms can be defined as a puzzling question, the answer to which involves the preservation in the object of reference of homonymic continuity from question to answer, but a reclassification of the synonymic significance of the object. Thus dogs that lie in the sun, and then get out so as not to be hot dogs, are hot and dogs structurally in both cases, but canines and frankfurters otherwise. Such combinatorial play with

classificatory ambiguities is certainly a part of what riddles are about. But riddles also involve ambiguities in human relationships, not just classificatory ones. And they involve ambiguities in our expectations of what the riddle form itself is about, so that some of the most nonsensical riddles (elephant riddles) simply play upon those expectations:

> How do you shoot a pink elephant?
> With a pink elephant gun.
> Then how do you shoot a blue elephant?
> (there are no blue e- guns)
> You dye it pink.

Still even if Piaget doesn't dominate the field, he does demonstrate one of the systems of rules that become absorbed into this particular form of play, and make flexible by the pursuit of nonsense or boundary limits within it. Piaget is after all a student of the conventional, not of the unconventional.

(c) Games

In my earlier work on the structure of games, I emphasized that most of the games played by children up until the age of 9 or 10 years are not games in the sense in which Roberts defined them, that is, as having rules, sides, and winners. The bulk of young children's games do not have fixed sides nor declared winners. Instead one player becomes the center of the action momentarily, his place soon being taken by someone else. I called these central person games and pointed to their clear analogy with the way in which the nuclear family is organized. At about age 10, games proper emerge with individual and team contesting. But this was just one way in which game structure could be considered. The difficulty with games, as with most other expressive forms, is that they are multi-dimensional and therefore can lend themselves to many systems

of classification. They not only have interactional elements, but also actions, temporal and spatial relationships, and instrumentalities for carrying out these actions. Different systems of classification usually seize on some rather than others of these characteristics. Roberts and Company dealt only with those agencies influencing the outcome (strategy, etc.). Caillois, the other major classificatory influence in work on games, likewise dealt only with the qualities of action (1959).

Recently, I have tested out the use of a structural paradigm derived from Piaget. Does the analogy of logic have anything useful to say about the structure of games? In both cases there is clearly a sequence of structures. Games like logical structures have the qualities of wholeness (they are not reduceable to their components), they are also self-regulating forms (their rules, boundaries, etc.), and they have laws of transformation which prescribe how the roles can change in an orderly manner. While games are not operations in the strictly mathematical or logical sense, their regulations and particularly their role reversibility, their compensations (hide and seek), present on the qualitative rather than the quantitative level, a quite remarkable analogy with Piaget's statement about the mathematical group. They are not unlike the concrete operations of middle childhood. In games as in concrete operations, there is an understanding of the reversibility of practical operations. And so far as we can tell from observing the ages at which they occur in games, this role reversibility occurs prior to the same understanding as applied to physical reality, as the example experiment with "How many eggs" seems to illustrate. The understanding of the social reversibility precedes the understanding of the phyrical reversibility.

Still beyond the noticing of these parallels (wholeness, self-regulation, and transformation), the parallels between logic and games become more difficult to sustain. In fact, none of the characteristics of the algebraic group [elements, combinativity, inversions, and associativity] are strictly true of the game; though Piaget's prior order structure which involves mainly reciprocity and not reversibility seems more closely parallel. The order structure has regulated relationships and correspondences, and games certainly have these. Still there are all only analogies. The game operates in a different way qualitatively. In games, the subject playing is both himself as well as the player. As person he preserves his identity, and as player he shows role reversal (now being hider now being seeker), which corresponds perhaps both to being the one who judges reversibility as well as being the piece of clay that makes the reversal in the standard experiment on mass. Perhaps it is this prior gameplay at both the subjective and objective rules (holding one constant while transforming the other) that permits the later more abstract judgments on physical identity conservation through change.

In any case we can, at least by analogy, use these Piagetian concepts to set up a structural system that may have the promise of organizing games into the correct developmental sequences.

The system to be discussed involves three levels of social interaction, each of which corresponds to a major shift in logical thought, although in general preceding that shift in logic by several years. There are primary interactions, which refer to players acting upon each other and which characterize games up until about the age of seven years. There are secondary interactions, which are a special class of interactions

which serve to control the course of events in primary interactions (such as communications and coordinations of actions). Finally, there are tertiary interactions which refer to new classes of highly specialized interactions between sub-groups of participants, and which in their turn affect the first two classes of interactions.

Parallel to these shifts in the hierarchical level of interactions, there is also a differentiation of organizational complexity, which matches these other shifts. We move from a unitary organization of players at the first level to a dyadic organization of players at the second level to a quadradic organization at the third level

These various shifts are diagrammed in Figure 1, where it can be seen that each of the three levels has two subordinate levels across which complexity is increased in the same dimension. In addition, the three classes of interactions with a zero class correspond to the well-known play categories of pastimes, central person games, competitive games, and sports. The other details of the system are explained for each section in the descriptions that follow:

Figure 1

A Structural Organization of Game Levels

Game Type A: Pastimes
Level 0

B: Central Person Games: primary interactions (actions)
Level 1: role reversals (Hide & Seek)
Level 2: role & action reversals (Release)

C: Competitive Games: secondary interactions (signals)
Level 3: internal coordinations (Dodge Ball & Mark)
Level 4: external coordinations (Prisoners Base & Marbles)

D: Sports: tertiary interactions (sub-group differentiation)
Level 5: external to players (coaches, audiences, etc.)
Level 6: internal to one team, the defense (Baseball, etc.)
Level 7: between both teams, attack & defense (Football)

Level 0: Conservation by Rote

We begin with a zero level of games which are prescriptive or ritualistic, the roles and actions in those roles being defined by traditional verses. Neither roles nor actions need to be internalized operations. One may just follow the others and the verses. Sometimes there is a built in reversibility of actions, where orderly procedures break down into disorderly ones (as in Ring a Ring a Roses), and sometimes a built in reversibility of roles (as in Farmer in the Dell) where each player signals the next one to take over the central position so that the one chosen becomes the next chooser. In the first type there is no role differentiation, in the second we have the narcissistic central roles (Punchinello, Pretty Little Girl of Mine, Poor Sally, etc.)* The temporal and spatial elements are also controlled by the game, the length of the verses controls the role participation, and the circular hand holding controls the spatial organization. In these games the only non-prescriptive element is the choice of the next player. No one prescribes whom the central player shall choose. If you are chosen you get to wear the central identity, and then see that central identity worn by someone else whom you choose. The egocentricity of not wanting to lose the central role is overcome by the pleasure of being the one who makes the decision.

Level 1: Role Reversibility

True games involve the player himself carrying out the actions as a result of operations within his own head, rather than by externally prescriptive statements. In these most elementary of true games this

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*Games are described in Sutton-Smith, B., The Folkgames of Children, University of Texas, 1972.

condition holds. There is one dyadic class of interactions (hide and seek, chase and escape) in which players assume first one role, then the other, in each case returning to the prior role identity after performing the other role identity. The roles are reversed, the players identities conserved. They are always the same people, even though they are transformed into different roles. The games are organized temporally into episodic units. Any unit is replaceable by any other unit. There is a linkage between units (tagging or reconnaissance), but no cumulative logic. Usually there is some safe or home base, from which actions radiate dispersively. The actions themselves usually vary with the culture. The use of spatial bases where to leave them or get back into them also varies with culture (Sutton-Smith, 1959); the use of physical or symbolic agencies also varies with culture. However, the centering of a single dyadic class of interactions on the intiatives of the central player does seem to be the universal elementary form of the game where games are played.

Level 2: Role and Action Reversibility

We now add to the prior condition, the capacity of the non-central players to reverse the actions of the central player. So not only is the central player's role reversed by successful interaction, his actions can also be reversed. Reversibility is now in the hands of both groups. Typically, each class of actions takes place in parallel. Thus in Frozen Tag, the non-central players who are tagged must stand as frozen, but they can be freed at any moment by one of the still free players running by and letting them go. The central player tries to freeze everyone, those still free try to get everyone else free. This

implies now that the action units are bound together into a temporal sequence. The central character, by tagging players in turn until he has all players, binds time in a cumulative way. The other players, by freeing their comrades, break time down. Space is now also differentiated into prisoner space and free space. Earlier it was safe space and free (albeit dangerous) space. Space has thus become tri-dimensional.

Level 3: Coordination of Roles and Actions Within Group

We now introduce a new secondary level of interactions whose point is to coordinate the primary interactions of levels 1 and 2. Thus players in the non-central position signal to one another in order to contest more effectively. That is, they cooperate. This new and different class of interactions is not the primary stuff of the game, but it facilitates that primary stuff. In Dodge Ball, the players, by signalling and passing to each other, are able to confuse the central player and hit him with the ball. In Bull in the Ring, the circle of players, by holding hands and calling out warnings, are able to keep the Bull in the center. These secondary level interactions might be termed embedded meta game interactions to distinguish them from the true meta game interactions such as counting out rhymes and arguments about fairness, cheating, and the like, which take place cirumjacent to the game.* However, we prefer to call them secondary interactions because they have to do with the organization, control, and coordination of the primary interactions through which the outcome of the game must be mediated.

At the level at which these games occur (around 10 years) we have a further organizational differentiation in game typology. Just as

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*And which have their own structural evolution not dealt with here.

the two earlier levels contained central or individual players against a group of players, so now we have two sets of games, one concerned mainly with individuals and one concerned mainly with groups. The one set concerned with groups we have described above, although there are other interesting mixed classes like Red Rover, which partake of both level 2 (one player tags others, who if one of their kind gets across, all may run) and level 3 (the players in the center may combine to catch one runner) and have a transitory team formation rather than one temporary team as in Bull in the Ring above, against the central person.

The games concerned with individuals again have one individual playing in a group, but now every player is playing for himself. Each player is a central person to himself but an amorphous group to everyone else. These are games like Marbles, Hopscotch, Jacks, Mumley Peg, etc. where everyone plays for individual victory.

We should note at this level also the more seriously competitive quality of the games. In the individual games you play to win and your skill is at stake. In the continuing group games, you maintain your position in the center now by skill, not simply by magical properties like tagging. So the other great shift between levels 2 and 3 is a shift in the class of actions that are critical. Attack and defense now come to predominate over chase and escape in some cultural settings. Direct and forceful contact may come to dominate over indirect and symbolic contact in some cultural settings (you are hit with a ball or fist, not tagged with the fingers). The time sequences, particular in the individual games, can be greatly extended, though they are not always. Thus in the Hopscotch-type games you have parallel cumulative series taken in turns, each player beginning again from the point at which he left off earlier. (We need note

here, however, that the prescriptive character of Hopscotch sequences enables these to be played at a somewhat earlier age than that discussed here.

Spatially at this level we have the emergence also of linear fields, with two goal areas. Red Rover is an example. Again this is culturally relative and does not seem to appear prior to the development of agriculture in cross cultural data.

Level 4: Coordination Between Groups*

Secondary interactions are now extended not only to internal group relations, but to relationships between groups. There are now coordination between teams or between individuals which are essential to the conductance of the game. This is Prisoner's Base, a member of one team signals when the others may start (he issues a challenge). He is then pursued. But one of his own side can only help when one of the others has emerged from the base. There is a mutual interdependence of, as contrasted with a relative randomness in, the primary actions. In the individualistic type of games, it is now one individual against another. The interactions are carefully structured. One player's moves depend on the other's moves, as in Checkers.

Level 5: Sub-Group Coordination (Internal)

Just as levels 1 and 2 involved differentiation within primary interactions, and levels 3 and 4 involved differentiations with secondary interactions, at the next two levels we have differentiations within tertiary interactions. Again as at levels 3-4, there is a split into

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*I am indebted to Dan Mahoney for this distinction of within and between group coordination.

two types of organization of games(individual and group), now at this level we get a further split into types of organization (games vs. sports).

Tertiary interactions have the same coordinative aim as secondary interactions. However, instead of being relevant to the total group and all the players, they are focussed on a sub-group, either within the team or between the teams. There are thus tertiary sub-group internal interactions and tertiary external sub-group interactions.

Tertiary internal interactions have to do with specialized role within the playing group. We have pitchers, first basemen, etc., and these players interact coordinatively with each other, which has an impact on the outcome without the rest of playing group having to be in the particular coordination.

Level 6: Sub-Group Coordination (External)

Prior to coordination between teams, there appears to be coordination between each team and its supporters, as well as with the external maintenance apparatus of coaches, referees, time-keepers, and the like. It's hard to argue that this internal-external differentiation is a logical next step, but it seems to occur historically prior to the differentiation of step 7.

Step 7: Coordination Between Sub-Groups

Now the positions of attack and defense are differentiated in each team and play is coordinately accordingly. A game of football or a game of chess is the appropriate illustration.

Empirical Assessment

When this way of organizing the material in terms of superordinate classes of interaction and organization, which derives at least

by broad analogy from Piaget's organization of logic, is compared with the empirical data it organizes, most of it is very successful. Unfortunately, the data available are mainly from preference lists and there are problems with that (Sutton-Smith, 1963). The massive observational data of Eifermann are not yet generally available for such empirical check (1972). Still within the limits of the empirical data, the first four levels at least seem to arrange the games in the chronological order in which they actually occur. There are only a few major exceptions.

Some contact games are played by older children but with a much lower level of organization. Thus Ball tag has the organization of level 1 (as in tagging), but involves throwing a ball to execute the tag and this ball throwing can be quite hurtful to those being hit by it. In addition, younger children cannot manage the level of skill involved. From which we may conclude that on occasions the high level of skill or of pain may be purchased at the expense of lowering the level of organization. Clearly this limits the predictive power of the structural theory.

Sometimes the kissing games of 13-year olds are also played at a much lower level of organization. Kiss in the Ring is played almost like Farmer in the Dell (a zero level), except that a spinning bottle decides the outcome. Here presumably intimacy (like contact) are something difficult for the younger children to manage, though there is evidence at least anecdotally that this need not be the case. The later age level was the price for puritanic inhibition.

A more remarkable case is that of Hopscotch, Jacks, and Jump Rope, which are at the third level in terms of organization, but are often played by younger girls. Here it seems the prescriptive-like ordering of the sequences of actions (not unlike our zero level games) permits

their more ready assimilation at an earlier age. Thus, although there is competition, in a sense each child is merely temporarily stopped by her own mistakes while pursuing a clearly stated line of action.

There are other anomalies. This system does not sort out the differences between chance and strategy very well. In those games the level of interaction between the players is really not so crucial to what is going on as the levels of complexity within the player's heads or their attitude to risk taking. However, if the levels of interaction are scored, the chronological placing is accurate enough. Thus Bingo goes at level 3, Checkers and Chess at level 4. They are certainly playable at those ages, although Chess in particular has a greater future perhaps consonant with the fact that it has a more complex internal organization than Checkers. The Chess board has two teams with internal interdependencies and alliances coordinated across groups and, if it is in international competition, then it has the external trappings of judges, etc., so makes level 6, as it should. It is anomalous to have a system which places Checkers and Chess at the same level.

The empirical data do not seem sufficient to help much with levels 5 and 6 as yet, although the historical data certainly put Baseball-type games (with only one sided differentiated) prior to fully differentiated football two-sided games. The latter are truly quite recent Again it is not possible to decide whether level 5 differentiations within (role specialization) and without (judges, etc.) occur sequentially. There are early signs of both, but the full flourish of same is first registered in American Indian village groups; and in these the external attributes of scorers, judges, and the like appear to be more fully developed than player differentiations within the games (Lacrosse or bowl games).

Which means that games become externally differentiated as sports prior to their full internal development as sports.

In sum, it would be wrong to give the impression that games can be thought of only as exercises in levels of interaction. While this explains much and provides a useful chronological ordering system, it is only one of the principles inherent in games, just as classification was only one of the principles inherent in riddles. Games have their own nonsense. In particular, games always involve reversals of the usual contingencies of power, and there are a series of these reversals. There is the basic reversal of social control insofar as the players are concerned. There is role reversal, there can be rule reversal, there can be tactical reversal, etc. As in the case of riddles, games at their height reverse any expectancies that might be held of them, most perfectly illustrated by Stephen Potter in "Gamesmanship, or How to Win Without Actually Cheating."

Conclusion

In all of this material, whether on games or riddles (the only two illustrations of folklore with which I have dealt), it has been shown that it is possible to discover pieces of cultural reality modelled in the games (power, interrogation, cultural complexity, number conservation, word classification, and classes of social interaction); and that when these are focussed upon, they yield empirical correlates with other aspects of cultural reality. But it has also been shown that representational modelling of this sort is never sufficient to account for all aspects of the childlore system. As well as the combinatorial play that is represented in each case, there is also pushing toward limits, a discovery

of that threshold where play becomes playful or becomes nonsense. And it has been argued that this larger ludic modelling is functionally important in the development of flexible as compared with merely adequate control of the adaptive domains involved. It is important also in developing flexible competences which they have potential value for subsequent adaptation.

A theory of folklore as ludic models needs take into account, we have argued, the prototypic and inversive as well as the realistic (consolidative) modelling of the larger culture of which it is a part. Progress to date clearly indicates these phenomena are not irrelevant to the larger culture. It is now appropriate to deal more precisely with their own unique forms of functioning.